

Rain Gardens

... absorb water, reduce runoff, prevent flooding

2009

What are rain gardens?

Rain gardens are depressional areas landscaped with perennial flowers and native vegetation that soak up rainwater. They are strategically located to capture runoff from impervious surfaces, such as roofs and streets. Rain gardens fill with a few inches of water after a storm and then water filters into the ground, rather than running off to a storm drain.

Why are rain gardens important?

As cities and suburbs grow, increased storm water runoff from impervious surfaces becomes a problem. As more impervious surfaces are added to our communities, it is more important than ever to help rainwater infiltrate. This protects water quality and reduces storm water runoff.

Storm water runoff from developed areas increases flooding potential and carries pollutants from streets, parking lots and lawns into local streams and lakes. Rain gardens can absorb most rainfall events.

Designing and Planting

Designing and planting a rain garden is very similar to creating other perennial gardens, with a few of the following exceptions:

Location

Rain gardens must be located to intercept runoff from impervious areas. They can be placed anywhere good soils with adequate percolation rates exist. It is best to keep rain gardens away from building foundations, utilities, and septic systems.

Size

Rain gardens are typically 7 to 20 percent the size of the impervious surface generating the runoff entering the garden. Measure the square footage of the impervious area (length x width); then multiply this by 0.07 (7 percent).

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Rain Garden in a neighborhood



Illustration Courtesy of
Doug Adamson, RDG Planning & Design

Plant Choices

Choose plants based on need for light, moisture and soil. Vary plant structure, height and flower color for seasonal appeal and butterfly habitat. The use of native plants is encouraged.

Depth

A typical rain garden is between six and nine inches deep. This depth, proportionate to surface area, helps assure water will infiltrate quickly and not pond.

Rain garden setting



Location

Rain gardens are often located at the end of a roof gutter or drain spout, as a buffer between the lawn and the street.

Soil Amendments

A good soil mix for rain gardens is 50 percent sand, 30 percent compost, and 20 percent topsoil.

Size

A rain garden is typically 7 to 20 percent the size of the impervious surface that generates runoff.

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Determine a length and width of the rain garden that best fits the site. For example, a 2,000 sq./ft. roof with four downspouts, when multiplied by 10 percent, would call for a rain garden 200 sq./ft. in size, or 20' long by 10' wide.

Garden Depth

A typical rain garden is between six and nine inches deep. It must be level side to side and end to end, and the berm must be level so storm water runoff spreads evenly.

Soil Amendments

To prepare for a rain garden, remove 12 inches of soil to create a depressional area. Add three inches of sand, two inches of compost and one inch of topsoil, and blend uniformly.

Plant Selection

While rain gardens are a highly functional way to help protect water quality, they can also be an attractive part of your yard and neighborhood. Choose plants based on site considerations for light, moisture and soil. Vary plant structure, height and flower color for seasonal appeal and butterfly habitat. Mowed grass borders or hard edging are recommended around the garden. The use of native plants is encouraged.

Young plants, or plugs, are best for rain gardens because they are easier to establish and maintain. When laying plants out, randomly clump individual species in groups of three to five plants to provide bolder color. Be sure to repeat these individual groupings to create repetition and cohesion in a planting. It is a good idea to place plant labels next to each individual grouping. This will help identify the young plants from weeds as you maintain the garden.

It is important to water rain gardens regularly throughout the first season. Once established, they will thrive without additional watering. A two-inch layer of shredded wood mulch is an important part of a rain garden. Mulch helps retain moisture and discourages weed seeds from germinating.

Low Impact Development (LID)

A rain garden is one example of the low impact development (LID) approach to storm water management. Traditionally, storm water management has involved the rapid conveyance of water via storm sewers to surface waters. Low impact development is a different approach that retains and infiltrates rainfall on-site. The LID approach emphasizes site design and planning techniques that mimic the natural infiltration-based, groundwater-driven hydrology of our historic landscape.



A mature rain garden in the Okoboji area catches storm water runoff from the street, thanks to a curb cut in the road.

More information about rain gardens

Find additional information about rain gardens by visiting the follow Web sites:

www.ia.nrcs.usda.gov/features/raingardens.html
www.iowaagriculture.gov/press/rainGarden.asp
www.iowasudas.org
www.raingardens.org
www.mninter.net/~stack/rain/
www.stormwatercenter.net

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